Analysis of Models

In this repository the objective was to aid a non-profit organization named Alphabet Soup in selecting applicants for funding. They want to use a machine learning model to assist their organization in sorting these applicants with a binary classifier, which will predict whether applicants are successful or not. The applicant's type of application, affiliated industry, government classification, use case for funding, organization type, income, active status, funding amount requested, and any other special considerations were used to sort the binary. The name and EIN of the applicants were not used in the model.

There were several models used in this project. The first model had 2 hidden layers with 7 nodes each. The original model was able to provide an accuracy of roughly 73% and a loss of 55%. This implies that the model had a few big errors, and it would need to be corrected. Next, there was an attempt at optimizing the model with an additional hidden layer and more nodes per hidden layer, now up to 21 per. This didn't yield better results. When the model was going through the epochs the accuracy and loss hovered in a similar place as the previous model. The third attempt had more bins to attempt to account for rare occurrences and achieved nearly the exact same results as the previous two. The final attempt had the final hidden layer adjusted from reglu to sigmoid to see if this would have any effect. It didn't.

In the future it would be best to expand the information that is being gathered regarding the applicant's situation. Special considerations should be expanded drastically to describe the situation. Also, it would be better to have information on what project they would be taking up with the money and if we are their only source of income.